

ABSTRACT

In a computer system, a parallel, distributed function lookaside buffer (TLB) includes a small, fast TLB and a second larger, but slower TLB. The two TLBs operate in parallel, with the small TLB receiving integer load data and the large TLB receiving
5 other virtual address information. By distributing functions, such as load and store instructions, and integer and floating point instructions, between the two TLBs, the small TLB can operate with a low latency and avoid thrashing and similar problems while the larger TLB provides high bandwidth for memory intensive operations. This mechanism also provides a parallel store update and invalidation mechanism which is particularly
10 useful for prevalidated cache tag designs.